HOMs in Spokes - Are They a Problem? T. Grimm, Michigan State University

Higher-order mode (HOM) damping will be required in many accelerators, regardless of the cavity types, to eliminate beam instabilities. Multi-bunch instabilities (transverse, and longitudinal for v/c<1) become an issue as beam intensity increases. Superconducting elliptical cavities have demonstrated many solutions to effectively damp HOMs and thus control instabilities. A comparison of spoke and elliptical cavity HOM issues is presented along with examples from pulsed and cw machines (SNS and RIA).